

Citation:

Cherpitel CJ. Alcohol and injuries: a review of international emergency room studies since 1995. *Drug Alcohol Rev.* 2007 Mar;26(2):201-14.

PubMed ID: [17364856](#)

Study Design:

Systematic Review

Class:

M - [Click here](#) for explanation of classification scheme.

Research Design and Implementation Rating:

NEUTRAL: See Research Design and Implementation Criteria Checklist below.

Research Purpose:

To review emergency room (ER) studies on alcohol and injury, using representative probability samples of adult injury patients, focusing on the scope and burden of the problem as measured by blood alcohol concentration (BAC) at the time of the ER visit, self-report drinking prior to injury, violence-related injury and alcohol use disorders.

Inclusion Criteria:

- English-language literature
- Articles published between 1995 and 2005
- All articles identified were reviewed and included only if they reported data from probability samples of ER patients which equally represented all shifts of the day and days of the week during the period of study, those covering all injury types and causes or those restricted to injuries resulting from violence (violence-related injuries were defined as those resulting from intentional causes compared to those arising from unintentional causes)
- Those including primarily adult populations

Exclusion Criteria:

Articles reporting data reflecting only specific times of day or days of week were excluded, as were those restricted to specific types and causes of injury (other than violence-related injury), and those restricted to youth or adolescents.

Description of Study Protocol:**Recruitment**

A computerized search of the English-language literature on MEDLINE, PsycINFO and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) Alcohol and Alcohol Problems

Science Database (ETOH) was conducted for articles published between 1995 and 2005, using the following key descriptors:

- emergency room, emergency department, accident, emergency
- alcohol, drinking
- injuries (intentional and unintentional)

A manual search of selected journals where articles on this topic were likely to be published, and a search of bibliographic references of recent relevant papers and reviews were also conducted to ensure inclusion of all potentially suitable studies.

Design: Systematic review

Blinding used (if applicable): not applicable

Intervention (if applicable): not applicable

Statistical Analysis: not completed

Data Collection Summary:

Timing of Measurements: not applicable

Dependent Variables

- Injury (intentional and unintentional)

Independent Variables

- Alcohol consumption

Control Variables

Description of Actual Data Sample:

Initial N: original number of studies identified not clear, 56 references included

Attrition (final N): 56 references

Age: not described

Ethnicity: not described

Other relevant demographics:

Anthropometrics

Location: International studies

Summary of Results:

Key Findings

- Findings support prior reviews, with injured patients more likely to be positive for BAC and report drinking prior to injury than non-injured, and with the magnitude of the association substantially increased for violence-related injuries compared to non-violence-related injuries.
- Indicators of alcohol use disorders did not show a strong association with injury.
- Findings were not homogenous across studies, however, and contextual variables, including study-level detrimental drinking pattern, explained some of the variation.

Other Findings

Prevalence of Alcohol Involvement in Injury

- Blood alcohol concentration
 - injured patients were significantly more likely to be BAC positive at the time of ER admission compared to non-injured in the few studies which collected comparative data, BAC estimates among injured vary considerably
- Self-reported consumption
 - injured patients were significantly more likely than controls to report drinking within 6 hours prior to the event that brought them to the ER
- Violence-related injury
 - a higher prevalence of alcohol consumption prior to the event has been found for injuries resulting from violence (those arising from intentional causes) than for injuries resulting from other (unintentional) causes
 - in all studies, those with violence-related injuries are significantly more likely to be BAC positive and to report drinking prior to the event than those sustaining injuries from other causes
- Alcohol use disorders
 - in the majority of those studies using a comparison, no significant differences were found in the prevalence of symptoms of alcohol use disorders between injured and non-injured patients
 - with the exception of South Africa, the prevalence of a positive self-report is higher than the prevalence of a positive BAC, and the prevalence of both are higher for violence-related injuries compared to all injuries

Author Conclusion:

This review represents a broader range of ER studies than that reported previously, across both developed and developing countries, and has added to our knowledge base in relation to the influence of contextual variables on the alcohol-injury relationship. Future research on alcohol and injury should focus on obtaining representative samples of ER patients, with special attention to both acute and chronic alcohol use, and to organizational and socio-cultural variables that may influence findings across studies. In-depth patient interviews may also be useful for a better understanding of drinking in the injury event and associated circumstances.

Reviewer Comments:

Original number of studies identified not clear. Authors note the following limitations:

- *Review was limited to English-language literature*

- Review was restricted to adult ER patients and does not provide data on youth or adolescents, or on other specific types of injury
- Majority of studies did not account for substance use other than alcohol
- Injured patients drawn from ER samples are not representative of either those who obtain no treatment or those who receive treatment outside of the ER

Research Design and Implementation Criteria Checklist: Review Articles

Relevance Questions

1.	Will the answer if true, have a direct bearing on the health of patients?	Yes
2.	Is the outcome or topic something that patients/clients/population groups would care about?	Yes
3.	Is the problem addressed in the review one that is relevant to nutrition or dietetics practice?	Yes
4.	Will the information, if true, require a change in practice?	Yes

Validity Questions

1.	Was the question for the review clearly focused and appropriate?	Yes
2.	Was the search strategy used to locate relevant studies comprehensive? Were the databases searched and the search terms used described?	Yes
3.	Were explicit methods used to select studies to include in the review? Were inclusion/exclusion criteria specified and appropriate? Were selection methods unbiased?	???
4.	Was there an appraisal of the quality and validity of studies included in the review? Were appraisal methods specified, appropriate, and reproducible?	Yes
5.	Were specific treatments/interventions/exposures described? Were treatments similar enough to be combined?	Yes
6.	Was the outcome of interest clearly indicated? Were other potential harms and benefits considered?	Yes
7.	Were processes for data abstraction, synthesis, and analysis described? Were they applied consistently across studies and groups? Was there appropriate use of qualitative and/or quantitative synthesis? Was variation in findings among studies analyzed? Were heterogeneity issues considered? If data from studies were aggregated for meta-analysis, was the procedure described?	Yes
8.	Are the results clearly presented in narrative and/or quantitative terms? If summary statistics are used, are levels of significance and/or confidence intervals included?	Yes
9.	Are conclusions supported by results with biases and limitations taken into consideration? Are limitations of the review identified and discussed?	Yes
10.	Was bias due to the review's funding or sponsorship unlikely?	Yes

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